



# *Distribution Integrity Management Program Review*

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# DIMP is a Dynamic Process

- Many plans are static
- Procedures are general in nature
- Review process does not include procedures
- Plans must be dynamic
- Procedures must be a detailed, step by step, set of instructions
- Reviews must include all aspects of the DIMP process

# DIMP Process versus Procedure

- The difference between process and procedure is that a process manages the objectives of the procedures including the quality control of the activities, quality assurance of the data, execution of risk modeling, and the verification of the results. Procedures detail the necessary step by step activities to perform a task, how quality assurance is managed, how the risk model is to be executed, and the steps required to verify the results.

# Discussion Items

1. Procedures
2. SME Qualification and Selection
3. Data
4. Threat Identification
5. Subdivision of Areas
6. Potential Threat Evaluation
7. Performance Measures

# What is a Procedure?



U.S. Department of Transportation  
Pipeline and Hazardous Materials  
Safety Administration



## IM Plans and Development Models

- When a “Model” Program is used, documentation of how the “Model” Program works must be integrated or referenced.
- An Operator’s Operations, Maintenance, and Inspection procedures may need to be integrated or referenced in the DIMP depending on program’s structure.
- Procedures are required in 192.1007, and plans must contain adequate procedural documentation.
- Procedure means a fixed, step-by-step sequence of activities or course of action (with definite start and end points) that must be followed in the same order to correctly perform a task.
- Multi-state operators may have one or more plans but must be able to “filter” their risk ranking and measures to reduce risk by state.

# Importance of Procedures

- If the procedures are not detailed enough to ensure the consistency of the completion of tasks, the procedures are inadequate and the process cannot be completed effectively.

# Procedural Requirements of 192.1007

- A written integrity management plan must contain procedures for developing and implementing the following elements:
  - Knowledge.
  - Identify threats.
  - Evaluate and rank risk.
  - Identify and implement measures to address risks.
  - Measure performance, monitor results, and evaluate effectiveness.
  - Periodic Evaluation and Improvement.
  - Report results.

An example:

- A detailed procedure is developed to perform a task correctly.
- The successful execution of the procedure requires actions of an individual who:
  - Is Properly Qualified.
  - Understands the intent of the procedure.
  - Accepts the responsibility for doing the task correctly.
  - Understands and appreciates that it is wrong to take a potentially unsafe shortcut.



# Selection and Qualification of SME's

- What is an SME?
  - PHMSA defines a Subject Matter Expert (SME) as “an individual recognized as having a special skill or specialized knowledge of a process in a particular field, or of a piece of equipment.”
  - Does the Operator's plan identify the special skill/knowledge?
  - What kind of metrics/criteria are used?

# How were SME's involved in DIMP?

- Knowledge of the System
- Identify Threats
- Evaluation and Rank Risks
- Evaluate Effectiveness
- Periodic Evaluation and Revision as Needed

SME's are key factors in DIMP.

Do operators “quantify” an SME's knowledge?

How/what qualifies SME's?

# Knowledge of the System

- Initial Data Collection
- Data Gaps
- Determination of Data Needed to Evaluate Threats

# Quality of Data

- Accuracy
- Organization
- Level of collection
  - Historically to Present
  - Process for changes
  - Use of external sources

# Existing Records

DESCRIPTION AND DESIGN OF AN R&E

Planned Replacement ☒ Existing Replacement ☐ *Planned Replacement by Electric Services Change from the Wind Tunnel Too.*

As shown (Plan) Section Complete when changing system

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# Data Capture

- When facilities are being installed there is an opportunity to capture much data.
- Even though identified threats may involve more than location and material type, a number of DIMP plans simply restated the PHMSA requirement.



# Data Capture to Address Threats

- What information should be captured?
  - Example: Plastic pipe
    - Is this Aldyl-A , Plexco, Polypipe, Central, Perfection, medium/high density?
  - Example: Soil Type
    - Bentonite



# Data Capture to Address Threats





# Failure Analysis



# Review Data Collection Process

- Leak Repairs require Failure Investigation
- What data was recorded during construction?
  - Was it adequate?
  - Does the data capture process need revision?
- If threats arise in the future, can they be tracked back to a certain location, equipment, material or individual?

# QA/QC for data

- Installation or repairs require completion of paper or electronic records.
- The documentation is prepared and submitted to supervisors.
- The information becomes part of the system knowledge for DIMP processes.
- Are there data quality checks along the way?



# Importance of Accurate and Complete Data



# Threats

- Threat identification requires integrating multiple sets of data
  - Records from O&M activities
  - Records from Construction activities
  - Records from Special projects
  - Maps
  - External Information
  - Additional Information

# Threat Identification

- Identifying the Threat Characteristics
  - Actual
  - Potential
- Challenges
  - The Unknown



# Evaluation of Threats

- Likelihood
  - Only Includes Actual Threats
- Consequence
  - Class Location Main Consideration
- Incomplete Process
  - Only ranked “top 10” or “top 20” or “top 50” risks
  - Action plan for improvement only included those “top” risks

# Subdivision of Areas for Threats

- Example:
  - Company has specific area of Aldyl-A developing cracks
  - Risk involves ALL Aldyl-A
  - Coating issues are found in certain areas of the system
  - All pipe with that coating is ranked the same
- System Specific or Area Specific



# Performance Measures

- Do the performance measures provide the necessary feedback for management to review the effectiveness of the DIMP plan and make any changes required to improve the process?

# Revision of Plan

- Does the plan contain a process by which the program will be reviewed periodically and refined and improved as needed?

# Communication

- Changes to procedures.
- Changes to plan.
- Ensuring all levels of employees know their responsibilities relative to DIMP.
- Lines of Communication for individual responsibilities, required task performance, and plan revision updates MUST be part of the DIMP plan.

# Summary

- DIMP Plans must have clear, concise, procedures with defined results and measures.
- The DIMP process must allow information to flow from the top to the bottom as well as bottom to top.

# Summary

- DIMP is a dynamic process that requires operators to:
  1. Develop a plan to improve the integrity of a system
  2. Follow the procedures within the plan
  3. Evaluate the results of the completion of the procedures
  4. Revise the plan as necessary and go back to step 2.

# Questions?

